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## Situation Report: Tulane National Primate Research Center (TNPRC) Incident

### Situation Summary

- Two macaques at Tulane's National Primate Research Center (TNPRC) were reported to have been infected with the bacteria *Burkholderia pseudomallei* (the cause of Melioidosis) in November, 2014. One animal (IL38) was euthanized on November 26, 2014 and the remaining animal (ID22) had initially recovered but fell ill and was euthanized on February 19, 2015. Two additional macaques, animal 3 (JD78) and animal 4 (HM81) have recently tested positive for antibodies and are both being monitored at this time. A 5<sup>th</sup> macaques (IL88) was reported euthanized on Feb 23<sup>rd</sup>.
- \*According to the CDC *Burkholderia Pseudomallei* is a bacterium endemic to Southeast Asia and Northern Australia, and is typically found in contaminated water and soil. It is spread through direct contact with the contaminated source.

\*Source: CDC <http://www.cdc.gov/melioidosis/>

- A USDA employee has tested positive for antibodies to *Burkholderia Pseudomallei*. Further investigation is being done to find out if, when, and where the person was exposed to *Burkholderia Pseudomallei*. The employee was discharged from the hospital Sunday February 8, 2015. The person's travel history does include a visit to a region that may have provided an opportunity for exposure. Federal and state agencies are aggressively trying to determine if the illness was related to the facility visit or past travel. The employee is currently being treated with antibiotics and is undergoing further testing February 20, 2015.
- All Select Agent Research at TNPRC has been suspended.

**Actions by Agencies** – All new updates will be in **BOLD RED** letters.

**IC Group Meeting** – *The next meeting has not been scheduled.*

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CDC

- **The CDC laboratory has finished testing 70 specimens from the large batch of NHP sera we received last week. Two new animals were positive; these animals were tested because they were part of the group that had exposure to clinic from Oct 15-onwards.**
- **GE 22 has a 1:320 titer drawn on 11/26/2014 (admitted to clinic Oct 8<sup>th</sup>-Nov 26<sup>th</sup>). IN52 has a 1:160 titer drawn on 12/10/2014 (admitted to clinic October 24-Nov 25<sup>th</sup>).**
- **CDC thinks it is prudent to re-test these animals, look at their movements in clinic and field cages, and acknowledge that there is some uncertainty about their exposures and the interpretation of these current results. A rise in titer on re-testing would offer more evidence of acute infection. We are also communicating these results to Tulane.**
- **Laboratory results:**
  - On Friday afternoon, CDC's laboratory reported that all soil and water samples were negative for *Burkholderia pseudomallei* by two tests: polymerase chain reaction (PCR); and culture.
  - CDC staff involved in both the select agent and epidemiologic investigations continued their analyses of the material collected during their site visits. Decisions about future visits will be based on those assessments.
  - In the interagency scientific working group conference call, two environmental working groups were created. One group will assess risk to animal health, including wildlife, livestock, and domestic animals, and expects to begin its work next week. The other group is being organized to assess further environmental sampling needs inside and outside the Tulane facility.
  - All air samples have been processed and are negative.
  - Soil and water samples are expected to be complete by Wednesday, February 25, 2015. Interpretation of the results, in the context of other parts the investigation, will likely take longer.
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- **Epidemiologic Investigation:**
  - The team is still going over the information they collected last week.
  - The CDC laboratory received the blood samples from Tulane, state, and federal workers that were collected by Louisiana DHH. They will start the analyses today or tomorrow.
  - The CDC laboratory will be running the next batch of blood samples from non-human primates at the Tulane facility.
  - CDC has offered to test non-human primates that were received at the NIH in Maryland.
  - CDC is awaiting receipt of blood samples from Tulane workers that were collected on Wednesday, February 18.
  - CDC investigators, with USDA investigators, are collecting additional information to assess whether monkeys were exposed to *B. pseudomallei* in the animal health clinic. The additional information includes records of all monkeys seen in the clinic within specific time periods, as well as health and risk assessments for all workers with clinic access. A plan to collect blood samples from monkeys who were in the clinic at that time is in discussion.

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- **Workgroup Update**
  - The technical working group will meet by conference call on Friday, February 20 at 10 AM CST.
  - Supported the identification and coordination of representatives to the Science Technical Working Group.
- **Safety Update**
  - CDC/NIOSH provided updates to federal safety plan and submission to Tulane for review by safety officer. Safety Plan was finalized and Tulane biosafety officer has been designated as the Safety Officer in the plan.
- **Animal Investigation**
  - Dr. Bohm shared with investigators the timeline for the treatment of IB22, the animal that was euthanized last week, as well as a list of the different organ tissues that are being sent to CDC for testing.
  - USDA is following up on the shipment of nonhuman primates from Tulane to other facilities in November. CDC also spoke directly with one of those recipients, the National Institutes of Health, and await additional information from them.
  - Discussions with USDA and other partners regarding sampling plan sites.
  - CDC organized a call with participation of the Tulane laboratory scientist, TNPRC management, CDC (Alex Hoffmaster and his team, Henry Walke), USDA, and LA including the State Health Officer, State Epidemiologist, and State Veterinarian. The call discussed the approach regarding interpretation of laboratory results.
  - CDC received 43 sera from Tulane on 2/11.
  - Discussions with USDA and other partners regarding sampling plan sites.
  - Began CDC lab analysis of the 43 sera from Tulane received on 2/11.
- **Human Investigation**
  - Participated with interagency discussion regarding risk levels and testing needs. General consensus reached. FAQ related to sample collection, storage and confidentiality.
  - Developed script to communicate testing options with those possibly exposed and provided to State Epi for contacting and informing participants from 2/10 sampling event. Follow up will request participants to select testing or banking of their samples.
  - Obtained access to risk surveys of workers and in progress of reviewing.
  - CDC received 1 human serum specimen from Emory on 2/11.
  - Reviewed risk surveys of Tulane workers. Identified that 9 workers are at low risk, with none found to be at moderate or high risk. All individuals claim to be using appropriate PPE other than clinical lab that grew bacteria in open area.
  - Met with Tulane staff to communicate options for serum testing. Separate meetings were provided for two separate risk groups.
  - Ran IHA on NHP sera and inspector serum. Results expected by Friday 2/13.
- **Environmental Investigation**

As mentioned in last Friday's e-mail, the first batch of soil and water samples completed testing at the CDC laboratory. All were negative for *Burkholderia pseudomallei*.

  - CDC will include a representative in the environmental assessment group that is reforming to assess risk of environmental spread and risk to wildlife and domestic animals in the area. The group will assess when to make its next visit to the facility.
  - CDC received Soil and air samples received from EPA and Tulane on 2/11.
  - Discussions with EPA regarding testing sites and plan regarding decontamination if positive tests.
  - Processed 35 soil samples and started incubation in selective broth.

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- Transferred 6 air filters to GA public health for them to process with biowatch protocol.
- Received new lab equipment to troubleshoot filtration issues with analysis of 13 water samples received on 2/10. Lab analysis will be conducted on Friday 2/13.
- **Select Agents Investigation**
  - The team is writing their report. Awaiting their final conclusions.
  - *B. pseudomallei* inventory stock audit completed. Inventory is accurate and current.
  - Four of seven persons of interest by DSAT were interviewed today, including one individual who is no longer employed by TNPRC. Three of these individuals are in the process of demonstrating their donning and doffing procedures to DSAT inspectors at this time.
  - Review of a small portion of video on the entrances of the select agent laboratory in Building 5 shows various types of breaches in biosafety rules.
  - Demonstrations of PPE management observed by select agent inspectors show two consistent areas of risk:
    - Employees fail to tie their gowns in the back, allowing the gowns to flap, exposing the scrub layer underneath
    - The type of foot covers used in the lab are cumbersome to remove, increasing the risk that the scrubs underneath them could become contaminated during the doffing procedure
  - Until recently (January 2015) protocols in Building 5 involving Bp didn't require a shower out. Therefore, effective doffing technique was critical in preventing contamination of the scrub layer under the PPE used in the lab. Since the scrubs weren't changed, any contamination during doffing could be carried elsewhere on the campus.
  - Two of the seven individuals of interest have duties involving the checking of infected animals in the laboratories, and the feeding of monkeys in the colony. Since the monkeys are fed by hand spreading the food, it is conceivable that an individual could contaminate the monkey food via this route.
  - One of the seven individuals of interest (not one of the two individuals mentioned in the previous bullet) had on two previous occasions had been counselled for PPE infractions (NIOSH record review).
- **Communications**
  - CDC PIO continues to monitor press coverage and respond to queries.
- **Other**
  - Demobilized two staff, Jason McDonald and LT James Gooch.
- USDA
- **USDA has finalized the survey questionnaire with input from the LDAF. We are waiting on OMB approval prior to administering the survey.**
- **USDA has incorporated all current comments in the Domestic Sampling Plan and presented it to LDAF. One last review will occur before it is ready for presentation to the UCG possibly on Monday.**
- **The Wildlife Surveillance plan summary has been prepared and comments received from the State, Tulane and USDA. In the final stages of finalization before being presented to the UCG.**
- **USDA has provided edits to the one pager for veterinarians to LDAF.**
- **USDA representatives will be on site at Tulane next week. The National and Local Incident coordinator along with Select Agent Inspector/Foreign Animal Disease Diagnostician will be traveling on Monday and arrive in the afternoon.**

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**USDA provided a general statement to USA Today on USDA continuing its ongoing investigation on the facility. Did not provide any specific information.**

- Continuing to work with Tulane and CDC in identifying NHP for next round of sampling next week.
- Working with Tulane and State to finalize a short summary for GOSHEP on the Wildlife Surveillance Plan.
- Working with LA DAF to finalize the Information Sheet for Veterinarians
- Working with LA DAF to prepare the Domestic Surveillance Plan for GOSHEP review.
- USDA will meet with CDC next week at Tulane to discuss the epidemiologic analysis of the NHP testing.
- Held call with CDC to work out transfer of IHA assay and PCR test for future NHP surveillance activities
- The USDA National Veterinary Services Laboratory (NVSL) has received 2 raccoons, 1 possum, 1 rat and samples from 1 cat for testing. NVSL will perform cultures on the samples and send serum samples to an Australian laboratory for further analysis. This laboratory has more experience in conducting serum tests for *Burkholderia pseudomallei* in wildlife.
- In serum samples received, NVSL is requesting additional serum in order to have enough sample to test. Need 1 – 2 milliliters.
- NVSL will reach out to the National Wildlife Health Center (NWHC) which is testing sick or dead wildlife to ensure they have appropriate SOP's for testing for this agent. One raccoon has been found sick at a control site and shipped to NWHC for testing.
- USDA employee observed sampling of NHP in the colony today at Tulane.
- USDA is working with Tulane and CDC to identify the next round of colony cohort testing to occur on March 11th.
- USDA is finalizing the employee questionnaire for Tulane employees. An emergency OMB approval is being obtained and we will work with Tulane to administer the survey. USDA will receive the surveys and analyze the results.
- USDA worked with the LA DAF to develop the domestic animal surveillance plan and are providing comments to finalize the plan.
- USDA is putting together a summary of the wildlife surveillance plan for the GOSHEP for review and comment.
- The USDA and CDC Select Agent Programs are working to finalize the select agent inspection report for Tulane. It is expected to be finalized by the beginning of next week.
- Provided the LDAF with a one page document for distribution to animal health diagnostic laboratories on laboratory testing and analysis for *Burkholderia pseudomallei*.
- The USDA National Veterinary Services Laboratory will discuss with CDC Special Pathogens Branch the laboratory capacity for long term testing of NHP and wildlife.
- Provided responses to USA Today on questions they posed to USDA on environmental testing and on the exposed USDA inspector.
- Provided GOSHEP a statement to use in future press releases for the wildlife surveillance plan
- Met with State LDAF and LDWF to develop wildlife surveillance plan. Draft has been generated for comment.
- Met with LDAF to develop passive surveillance plan for domestic livestock.
- Provided one page *Burkholderia pseudomallei* information sheet for accredited veterinarians to LDAF.
- Held call with CDC and Tulane on collaborating to develop one overall spreadsheet to capture all tested NHP, locations, date of test, and relationship to infected and tittered NHP.

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- Will set up call with CDC and National Wildlife Health Center to discuss laboratory capacity and support for long term surveillance efforts of wildlife and NHP.
- Developing questionnaire for Tulane employees to find out contacts with domestic livestock and pets.
- Working with MD state veterinarian on trace outs of animals to other states
- Developing press statement on wildlife surveillance plan
- Provided Dr. Stacy with a one pager information sheet on *Burkholderia pseudomallei* for distribution to local veterinarians.
- USDA Risk Assessment group led a meeting to develop the wildlife surveillance sampling plan on site in Covington, LA.
- USDA provided comments to CDC and Tulane on the short term NHP sampling plan
- USDA Risk Assessment team is traveling to Covington, LA today. They will meet with the State and Tulane to discuss next steps for additional environmental sampling and wildlife sampling.
- USDA and CDC are working on a plan for the sampling of NHP in the clinic in order to systematically assess infection status in the clinic.
- USDA has added a senior epidemiologist to the team. He is working on putting together a summary of all animals tested with locations and cohort contacts in order to track the expanding number of potentially exposed animals. USDA has asked Tulane for data on the animals and requested test results from CDC on the NHP tested to date.
- Select Agent investigation: Working with CDC to complete our select agent inspection report.
- Status of NHP in veterinary clinic: Coordination call with CDC to discuss sampling plan of potentially exposed clinical animals and colony cohorts of known infected and positive titer NHP.
- Risk Assessment: Risk analysis team will travel to Covington and arrive Monday evening, February 23. They will work with LA DWF and LA DAF on the sampling protocol for wildlife as well as continued assessment of further environmental sampling.
- Tentatively scheduled to come back to conduct additional testing the first week of March.
- Collected samples from 43 primates within the facility on February 10, 2015.
- Currently working on a future plan to capture rats and cats for testing
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#### EPA

- Tentatively scheduled to come back to conduct additional testing the first week of March.
- Tulane samplers with oversight from EPA Contractors collected 13 water samples from various locations on the South Campus and shipped to the CDC laboratory in Atlanta.
- Daily air samples collected from locations around the South Campus and have been shipped to CDC Atlanta.
- Soil samples have been collected from 35 locations outside of the cages on the South Campus and shipped to CDC.
- February 11, 2015, Tulane personnel with oversight from EPA collected a total of 5 samples from the two pens which housed the infected primates.
- One surface soil sample was collected from pen R24. This pen has a mostly gravel floor so only one sample was collected on February 11, 2015.
- Four samples were collected in pen G12. Two (4 point composite) surface soil samples were collected and two grab samples from a depth of approximately 20 inches were collected on February 11, 2015.

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- Tulane personnel with EPA oversight collected two soil samples on February 12, 2015, from a parking lot on the North Campus used by vehicles which routinely travel between the two campuses.
- Swab samples were collected from two of the vehicles.
- A water sample was collected from the “Lift Station” on the North Campus.
- Three air samples were collected. Two of the samples were from the South Campus and one sample was located at the North Campus.
- All samples will be shipped February 12, 2015 to the CDC laboratory in Atlanta. This will conclude the sampling effort this week. EPA personnel will demob from the incident tomorrow.

#### OPH

- On Feb 23, 2015, 16 human serology specimens were shipped to CDC to arrive 2/24/2015 at 0800 for confirmatory testing. On March 3, 2015 CDC provided the results to OPH Epidemiology – all were negative for antibodies to *Burkholderia Pseudomallei*. As of today, March 4, 2015 all 16 individuals have been notified of their results.
- 28 human lab samples were sent to CDC today for confirmatory testing.
- All sera currently in the OPH Laboratory for which testing had been requested were sent to the CDC on Monday 2/24/2015.
- Attending daily UCG meetings at the St. Tammany EOC to obtain visibility on multi-agency response activities;
- Participating in TNPRC conference calls to offer epidemiologic opinion;
- Serving as liaison between CDC subject matter experts and the State Health Officer;
- Serving as liaison between subject matter experts at Tulane and the state response personnel.
- ID Epi staff will contact individuals whose blood was collected to determine preference for immediate testing or banking of samples.
- ID Epi staff will directly communicate test results to individuals who opt for immediate testing in order to protect the confidentiality of health information.

#### LDAF

- Worked with USDA to prepare and review Domestic Animal Sampling Plan, TNPRC Employee Domestic Animal Questionnaire, Veterinarian Information Sheet, Animal Owner Information Sheet, and Laboratory Information Sheet
- Participated in Wildlife Sampling Plan Conference Call
- Received negative *Burkholderia* testing results from DHH on two employees
- LDAF participated in the USDA Risk Assessment Group Meeting to develop short and long term wildlife/feral monitoring plans.
- LDAF participated in the Risk Assessment Group site visit to determine areas for wildlife sampling surrounding the compound.
- LDAF will meet with the Risk Assessment Group to discuss short and long term monitoring of pets and livestock.
- LDAF has notified the State Vet of Massachusetts that another consignment of 4 monkeys was shipped from Tulane to Boston University on December 9, 2014.
- LDAF planning to include *Burkholderia pseudomallei* as a reportable disease by Louisiana accredited veterinarians
- LDAF consulted with Dr. Ken Angel of USDA VS on developing the questionnaire for pets and livestock of Tulane workers
- LDAF coordinating site visit by USDA VS Risk Assessment Team to Covington on Tuesday



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- Participating in UCG Scientific Advisory Committee meetings
- Working with USDA Center for Epidemiology and Animal Health (CEAH) to develop an information sheet to inform accredited veterinarians about the disease
- Participating on CEAH's Risk Assessment subgroups to develop animal and environmental sampling plans
- Meeting with CEAH Risk Assessment group at 9:00am in Covington on Tuesday, February 24, 2015 at St. Tammany Parish EOC
- Emphasizing short term and long term monitoring plans
- LDAF participating in UCG Scientific Advisory Committee to develop action plan when tests results are received-air, soil, water, human, monkey
- LDAF assigned Foreign Animal Disease/Emerging Disease Incident (FAD/EDI) case number by USDA to participate in Tulane National Primate Research Center (TNPRC) investigation of *Burkholderia pseudomallei* (BP) laboratory breach
- 2 LDAF personnel TB tested, medically screened, and fit tested for PPE in preparation for site visit to Tulane
- 2 LDAF personnel were part of initial site visit investigation of TNPRC on Jan 22, 2015
- LDAF obtained testing protocols for environmental soil and water from CDC and NVSL in preparation for possible environmental sampling
- 17 LDAF personnel fit tested and medically screened to assist in environmental sampling or to oversee testing of primates
- LDAF personnel part of second site visit to Tulane to tour breeding colony and waste water sources on Feb 5, 2015
- LDAF personnel participating in daily Unified Command Group (UCG) Meeting and conference calls
- LDAF worked with USDA to develop Vehicle Cleaning & Disinfection Plan
- LDAF working with USDA Center for Epidemiology and Animal Health (CEAH) on risk of *B. pseudomallei* spread to livestock and aquaculture from Tulane
- 2 LDAF personnel tested by DHH for possible exposure to BP
- Attending UCG meetings in person and via conference call

#### LDWF

- As of 2/19/15, LDWF has brought the US Fish and Wildlife Service, USDA Wildlife Services and the National Wildlife Health Center into the loop.
- These agencies participated in the USDA Risk Assessment call at 10:30 am (Central time). All have agreed to advise or participate as needed.
- LDWF assigned the State Wildlife Veterinarian to help with develop protocols dealing with local wildlife that might have been around the research facility.

#### State of Maryland

- **The Maryland Department of Agriculture reports that testing of trace forward animals in Maryland from the Tulane National Primate Center for *Burkholderia pseudomallei* will be done next week, March 10 and 11, for a total of 43 primates at two facilities prior to further movement of any of these animals within or outside of Maryland. Samples will be tested by CDC. None of these animals are cage contacts or otherwise known to be in contact with the identified cases at TNPRC, but given that completion of surveillance testing and epidemiology evaluations are still pending, we are requesting this testing as a precautionary measure to ensure that no spread of any potential carriers has or will occur in Maryland.**



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Public Information

- Updates are being distributed to the media as new information becomes available.
- Saturday February 7, 2015 a press conference was held regarding the incident.

Acronyms

**Bpm** - Burkholderia pseudomallei

**CDC** - Centers for Disease Control and Prevention

**DHH** – Department of Health and Hospitals

**EOC** - Emergency Operations Center

**EPA** - Environmental Protection Agency

**GOHSEP** - Governor’s Office of Homeland Security and Emergency Preparedness

**IC** - Incident Command

**LDAF** – Louisiana Department of Agriculture and Forestry

**LDEQ** - Louisiana Department of Environmental Quality

**LDWF** – Louisiana Department of Wildlife and Fisheries

**OPH** - Office of Public Health

**TNPRC** - Tulane National Primate Research Center

**UCG** - Unified Command Group

**USDA** - United States Department of Agriculture